

WHAT IS CLAIMED IS:

1           1. A clutch-actuating device for a clutch in a motor  
2 vehicle power train, wherein the power train includes an  
3 engine, a clutch, a transmission, and a control unit; said  
4 clutch actuating device comprising an actuator motor driving  
5 an actuating member, and further comprising a transfer  
6 mechanism operable to transmit a movement of the actuating  
7 member to a clutch release element that is movable against an  
8 opposing force of a clutch spring to displace the clutch from  
9 a closed position to an open position, wherein the transfer  
10 mechanism has a first movement range in which said movement of  
11 the actuating member in an opening direction of the clutch  
12 does not displace the clutch from its closed position, and a  
13 second movement range in which the movement of the actuating  
14 member causes a displacement of the clutch, wherein the  
15 transfer mechanism has an interval of loose play, and wherein  
16 said loose play is used up within the first range.

1           2. The clutch-actuating device of claim 1, further  
2 comprising a compensation spring mechanism which introduces a  
3 first force/displacement characteristic into the movement of  
4 the actuating member within the first range, wherein the

5 displacement of the clutch in the second range follows a  
6 clutch displacement characteristic, and wherein in said second  
7 range said clutch characteristic is superimposed on said first  
8 force/displacement characteristic.

1           3. A method of determining the closed position of the  
2 clutch that is equipped with the clutch-actuating device of  
3 claim 1, comprising the steps of:  
4 - moving the actuating member through a transition from the  
5 first to the second range while simultaneously monitoring a  
6 parameter that exhibits a predetermined characteristic  
7 change during said transition,  
8 - detecting said predetermined characteristic change and  
9 equating a position where said characteristic change  
10 occurred to the closed position of the clutch.

1           4. The method of claim 3, wherein the step of moving  
2 the actuating member comprises an underlying monotonic  
3 movement with a superimposed oscillatory movement, and wherein  
4 said oscillatory movement has a small amplitude in comparison  
5 to a total displacement range of the actuating member.

1           5. The method of claim 3, wherein the transfer

2 mechanism contains a hydraulic circuit with a snifting bore,  
3 and wherein the method is performed in conjunction with a  
4 snifting cycle.

1 6. The method of claim 5, wherein the parameter being  
2 monitored comprises a hydraulic pressure downstream of the  
3 snifting bore.

1 7. The method of claim 3, wherein the parameter being  
2 monitored comprises at least one operating parameter of the  
3 actuator motor.

1 8. The method of claim 3, wherein the clutch has a  
2 gripping point, and wherein said determination of the closed  
3 position is performed immediately after initializing the  
4 control unit, prior to starting the engine, and prior to a  
5 first opening of the clutch that is followed by a closing of  
6 the clutch as far as the gripping point.

1 9. The method of claim 5, wherein said determination  
2 of the closed position is performed while the engine is  
3 running and a vehicle brake is applied, and wherein - if the  
4 transmission is not already in a neutral position - the



11. A method of determining a temperature of the actuator motor in the clutch-actuating device of claim 1, wherein said actuator motor is an electric motor and wherein said first range and said second range have different force-displacement characteristics, the method comprising the steps of:

- moving the actuating member through at least part of the first range;
- determining at least one temperature-dependent operating parameter value of the actuator motor, said temperature-dependent operating parameter value being dependent on said temperature of the actuator motor;
- comparing the at least one temperature-dependent operating parameter value to a stored table of parameter values as a function of temperature values, and
- determining the temperature of the actuator motor from said stored table by finding a match between the at least one temperature-dependent operating parameter value and one of the parameter values in said stored table.